

Work Order ID 55433

January 18, 2010 2:57:21 PM

Page 1

Item ID: D412-664-203

Accept

Setup Start

Revision ID:

Stop

Item Name: Crosstube Aft

Start Date: 1/18/10 Start Qty: 1.00

Cust Item ID:

Required Date: 1/29/10 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan:

Date: 10-1-18

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D412-664-243

E

100

0.00

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels as per PPP D412-664-203 CHG 006

MF 10/02/04

110

0.00

Packaging

Packaging

Memo

0.00

Packaging

MB 10-01-28

120

0.00

CNC Bend 2

BENDING MACHINE - CROSSTUBES

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D412-664-243 using CNC bender program 412-af and Folio FT010

MB 10-01-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Run Start

Approvals: Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

2781010128



Quality Control

140

Crosstubes

0.00



Crosstubes

Memo

0.00

1-Drill pilot holes in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551 1/2-Ream hole to finish size in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment wi



10-1-28

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

Hand Finishing Crosstubes

1 - - Ann 10-2-)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Run Start

Approvals: Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

QC3- Inspect Part Finish

0.00

⇒ 8.1062101

QC

Memo

0.00

Quality Control

170

QC5- Inspect part completeness to step on W/O

0.00

⇒ 8.1062101

QC

Memo

0.00

Quality Control

180

Outsource process - NDT per QSI038 4.1

0.00

Outsource2

Memo

0.00

Outsource process - NDT

Liquid Penetrant Inspection as per QSI 038 Or Issue P/O: 11290 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order

10 02 01 ①
RL 10-02-1 ①

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

0.00



Packaging

Packaging

Memo

0.00

Packaging

Inspect for transit damage ☐ Ensure copy of NDT results attached to work order.*PO 1/27/10 (1)*

200

0.00



QC

QC5- Inspect part completeness to step on W/O

Memo

0.00

Quality Control

Inspect for damage & ensure results are as per Dwg D412-664-203

MA 10 02 02 (1)

210

0.00



SprayPaint

SprayPaint

Memo

0.00

Spray Painting

1-Prime inside and outside crosstube as per QSI 005 4.2. 2-Paint outside crosstube with White Imron as per QSI 005 4.2 ☐ PRIME: StartTime: 8:00 Finish Time: 9:00 PAINT: StartTime: 9:00 Finish Time: 4:00*MA 10 02 02 (1)*

W/O:		WORK ORDER CHANGES					
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Run Start

Approvals: Process Plan: Date:

Tooling: Date:

Stop

QC: Date:

SPC (Y/N): Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220

QC14- Inspect Spray Paint

0.00



QC

Memo

0.00

Quality Control

Then, Wrap in plastic bag to protect from scratches

BT 10 02 03

230

Crosstubes

0.00



Crosstubes

Memo

0.00

Crosstubes

Assemble as per Dwg D412-664-203 1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe 2-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs. A/R 6398 Magnobond Ba 112417 exp:01/2011

Torque: NMT 10/02/01

MA 10 02 03 ①

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

78 10/02/04

④

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Customer:

Reference:

Run Start



Stop



Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

250



Packaging

Packaging

Pick Kit

Memo

0.00

0.00

10-2-4

sl

(K)

260



QC

Quality Control

QC4- 100% Inspect kits for completeness

Memo

0.00

0.00

8/12/05

(K)

270



Packaging

Packaging

Packaging

Memo

0.00

0.00

10-2-8

sl

Identify and pack for shipping as per PPP D412-664-203. *****Ensure tube is not packaged if curing time is less than 12 hrs, see step 27 for application time & date ***** Time & date of Feb 5th 2010 @ 12:00pm packaging: Location:

Rev H

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/02/09
MF
10-2-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

January 18, 2010 2:57:26 PM

Page 1

Work Order ID: 55433

Parent Item: D412-664-203

Parent Item Name: Crosstube Aft

Start Date: 1/18/10

Required Date: 1/29/10

Comments: IPP Rev:E 04.02.16 Reformat; Added D3189-11K/DS
 IPP Rev:F 06-03-29 Remove Coments on Pick List JLM
 IPP Rev:G 06.12.08 per ECN 886 EC
 IPP Rev:H 07-04-30 As per Rev D JLM

Start Qty: 1.00

Required Qty: 1.00

AN6-40A Purchased No

Each 126.0000 4.0000

Bolt

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

126

112612

1

112679

25

112828

50

113422

50

AN6-41A Purchased No

Each 102.0000 2.0000

Bolt

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

102

111605

7

112489

20

112805

25

113288

50

10-2-4 SP

10-2-4 SP

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Start Date: 1/18/10

Required Date: 1/29/10

Comments: IPP Rev:E 04.02.16 Reformat; Added D3189-1 K/DS
 IPP Rev:F 06-03-29 Remove Coments on Pick List JLM
 IPP Rev:G 06.12.08 per ECN 886 EC
 IPP Rev:H 07-04-30 As per Rev D JLM

Start Qty: 1.00

Required Qty: 1.00

AN960JD616

 Washer

Purchased No

Each 597.0000 18.0000



10-2-4

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 597

112314 3

112828 294

113149 300

18

D2856-600

 Abrasion Strip

Manufactured No

f 449.9974 1.7600



Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 449.9974

24328 6.73

25656 87.77

26650 8.23

36398 132.2074

37668 215.06

10 02 03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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 IPP Rev:F 06-03-29 Remove Coments on Pick List JLM
 IPP Rev:G 06.12.08 per ECN 886 EC
 IPP Rev:H 07-04-30 As per Rev D JLM

Start Qty: 1.00

Required Qty: 1.00

D2896-1 Manufactured No

Each 30.0000 1.0000



Support

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	30	
43209	10	
47820	20	

mt 10 02 03

D3189-1 Manufactured No

Each 29.0000 2.0000



Chafing Shield

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	4	
36065	4	
Main Warehouse		
ST	25	
47777	5	
52446	20	

mt 10 02 03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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January 18, 2010 2:57:26 PM

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Parent Item: D412-664-203



Parent Item Name: Crosstube Aft

Start Date: 1/18/10

Required Date: 1/29/10

Comments: IPP Rev:E 04.02.16 Reformat; Added D3189-1 K/DS
 IPP Rev:F 06-03-29 Remove Coments on Pick List JLM
 IPP Rev:G 06.12.08 per ECN 886 EC
 IPP Rev:H 07-04-30 As per Rev D JLM

Start Qty: 1.00

Required Qty: 1.00

D3595-063-570 Manufactured No

Each 69.0000 4.0000



RUBBER CUSHION

Warehouse Loc Qty Loc Code

Location

OFFSHORE

FG

4

37971

4

Main Warehouse

ST

65

42243

5

45509

60

Each 1.0000 1.0000

MW 10 02 03

D412-664-203TRN Manufactured No



Crosstube Turning Detail

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FG

1

54148

1

B55542

DD

10-1-27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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IPP Rev:F 06-03-29 Remove Coments on Pick List JLM:
IPP Rev:G 06.12.08 per ECN 886 EC
IPP Rev:H 07-04-30 As per Rev D JLM

Start Qty: 1.00

Required Qty: 1.00

MS21042L6

Purchased

No

Each

456.0000 6.0000



10-2-4

SP

Nut

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

456

105077

22

110002

5

111548

8

111578

400

112492

21

January 18, 2010 2:57:26 PM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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 IPP Rev:G 06.12.08 per ECN 886 EC
 IPP Rev:H 07-04-30 As per Rev D JLM

Start Qty: 1.00

Required Qty: 1.00

MS21920-28

Purchased

No

Each

126.0000 4.0000



Clamp(per MIL-DTL-8783C)

Warehouse Loc Qty Loc Code

Location

OFFSHORE

FG

5

105884

5

Main Warehouse

ST

121

106864

5

108466

9

108847

7

109181

14

109965

2

111281

2

111734

6

112624

26

112863

50

MA 10 02 03

W/O:		WORK ORDER CHANGES					
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 IPP Rev:G 06.12.08 per ECN 886 EC
 IPP Rev:H 07-04-30 As per Rev D JLM

Start Qty: 1.00

Required Qty: 1.00

MS21920-30

Purchased

No

Each

147.0000 2.0000



clamp(per MIL-DTL-8783C)

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

147

107600

3

109181

44

111258

50

112772

50

10 02 03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

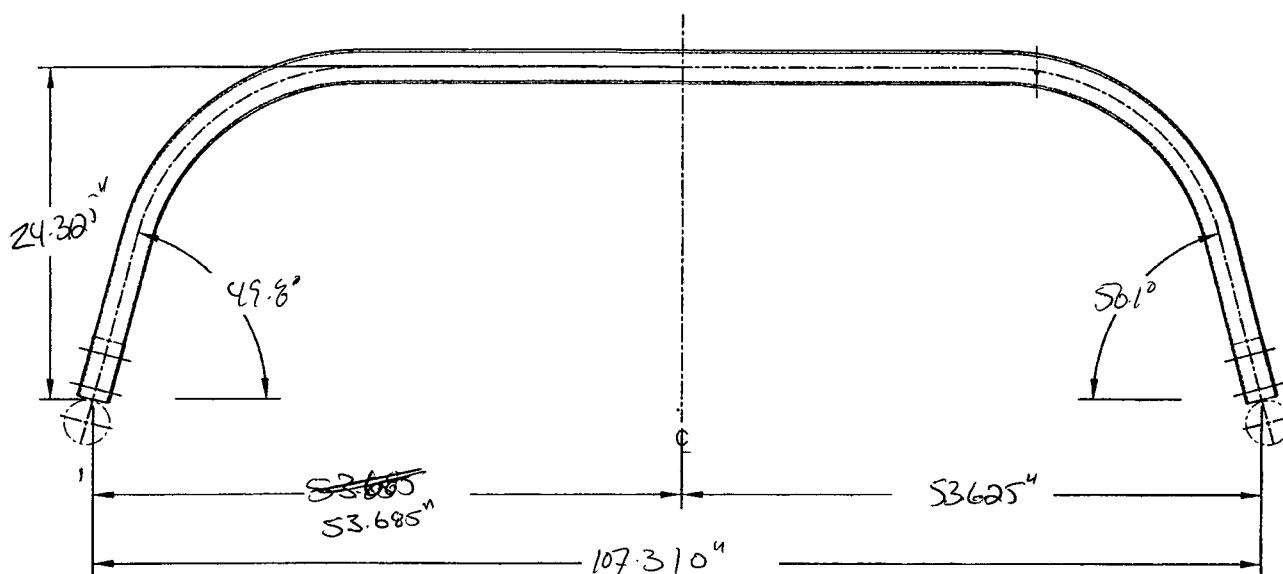
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	55433
Description: Crosstube High Aft (412)		Part Number:	D412-664-203
Inspection Dwg: D412-664-243 Rev: <i>DE</i>		Page 1 of 1	

10.01.28

Required Dimension	Min	Max
Height	24.24	24.50
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70



Comments

QC15 Inspection	<i>S</i>
Date	<i>10/01/28</i>

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. D	KJ/JLM <i>JA</i>	<i>Jm</i>

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Item	Qty	Part Number	Description
	-243		
1	X	D412-664-243	CROSSTUBE ASSEMBLY (412 HIGH AFT)
2	1	D6009-129	CROSSTUBE
3	2	D3595-063-570	RUBBER CUSHION
4	1	D2896-1	SUPPORT
5	2	D3189-1	CHAFING SHIELD
6	2	D2856-600-1009	ABRASION STRIP
7	4	MS21920-28	CLAMP
8	2	MS21920-30	CLAMP (OR MS21920-32)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6009-129
FINISHED LENGTH = 124.100±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D412-664-243" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 47.0 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2896-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2896-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-30 CLAMPS (OR -32) WITH D3595-063-570 RUBBER CUSHIONS TO SECURE THE D2896-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) INSTALL D2856-600-1009 ABRASION STRIPS WITH A 0.13 REF GAP ON BOTTOM SIDE OF CROSSTUBE PER QSI 035.
- 15) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 16) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

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WORK ORDER
NO. 55433

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2009-10-29
WTF

E	REFORMAT/REVISE GENERAL NOTES; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A6-3); ADD TOLERANCE (ZN B6-3, C4-3, C8-3 & C5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	09.09.30
D	REMOVE D2732-058, CHANGE TO D3595-063-570	PH	07.03.09
C	REMOVE D2856-600-1087, ADD D2732-058 & MAGNOBOND 6398, MS21920-32 WAS MS21920-30	MB	06.10.27
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	01.10.17
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. E
MFG. APPR.	PH	D412-664-243	SHEET 1 OF 4
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	CROSSTUBE ASSEMBLY (412 HI AFT)	NTS
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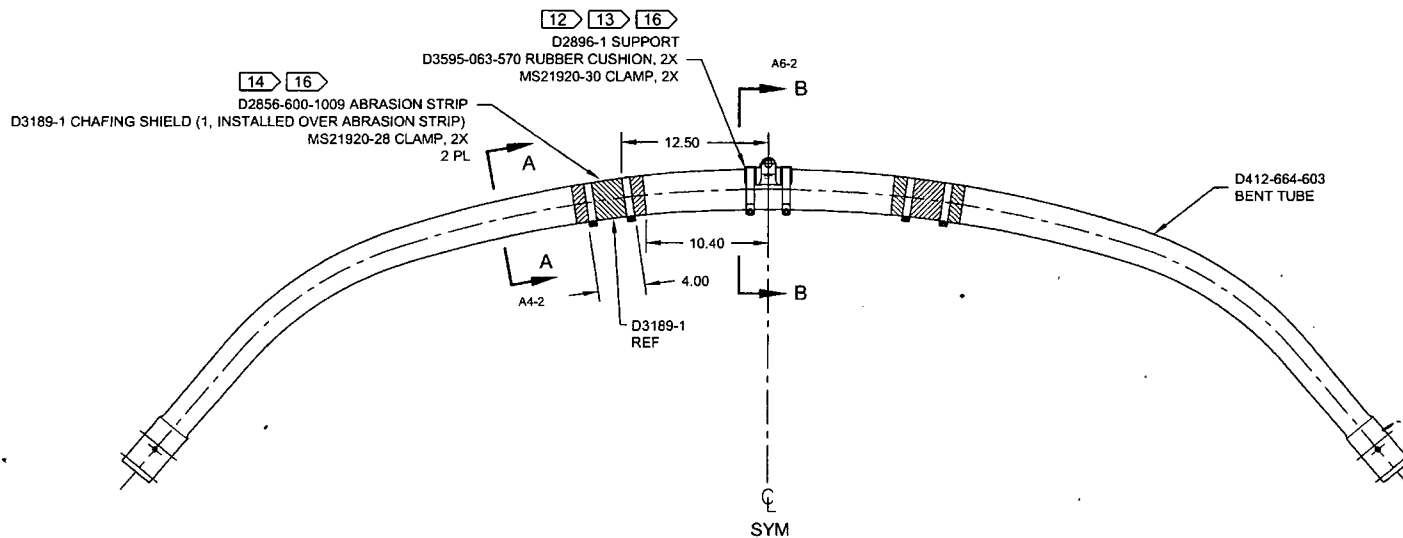
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

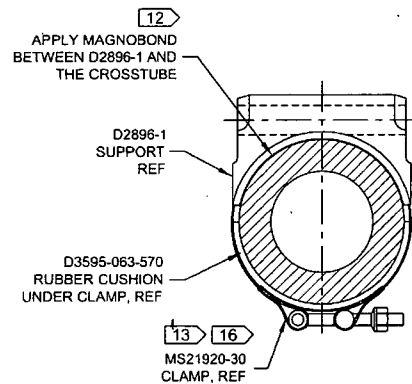
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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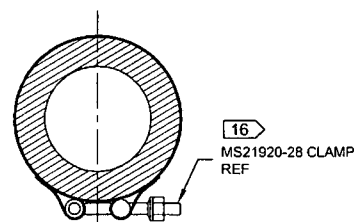
NOTE: Date & initial all entries



D212-664-243
ASSEMBLY DETAIL E



SECTION B-B D4-2
SCALE 4X



SECTION A-A C6-2
SCALE 4X

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2009-10-28
NAP

W/D 55433

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MFG. APPR.	RF	D412-664-243	SHEET 2 OF 4
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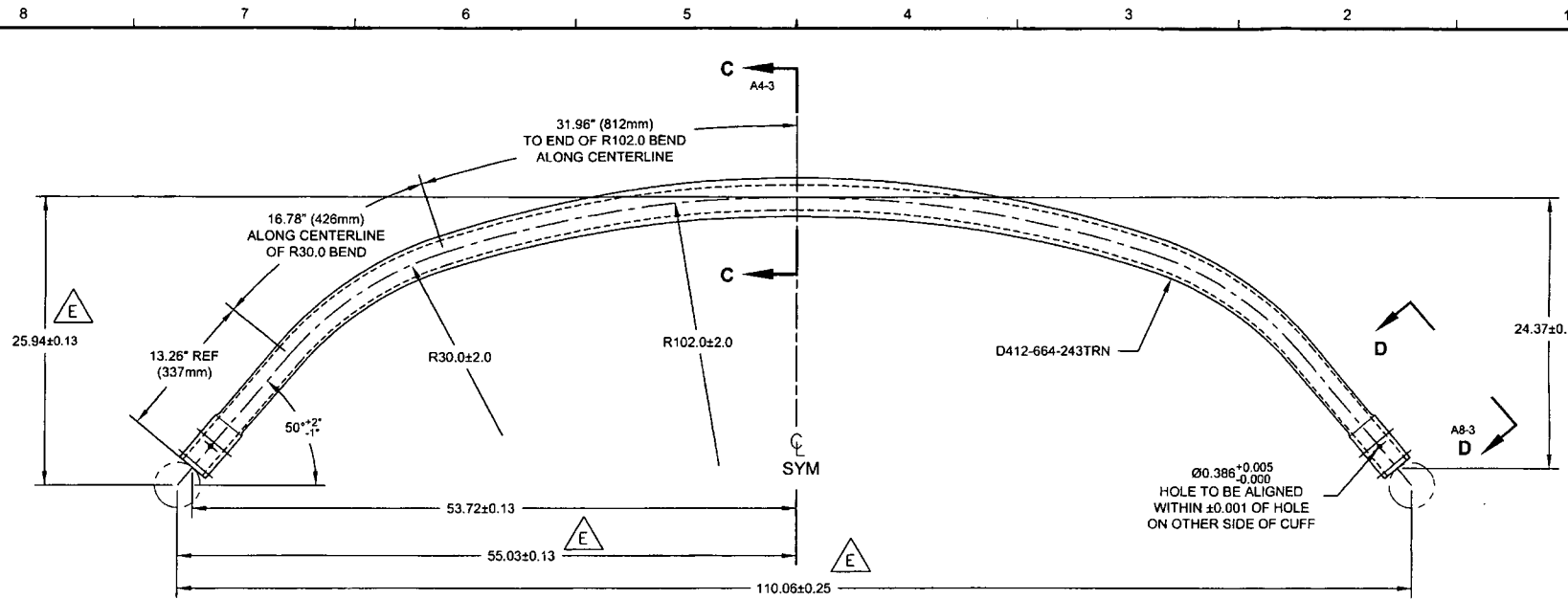
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

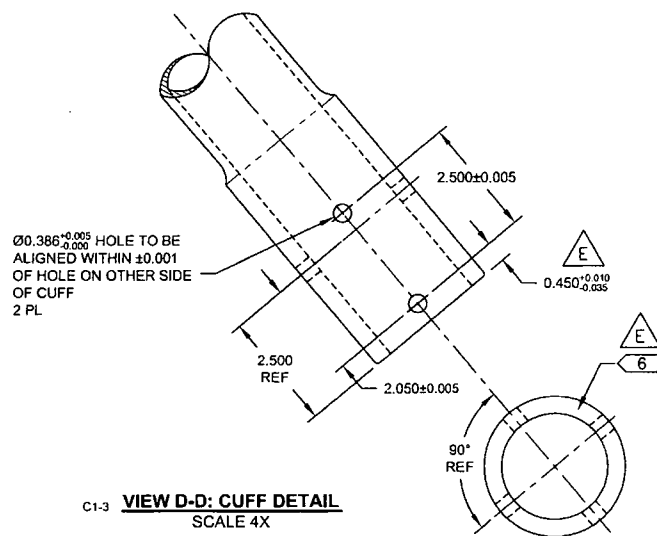
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

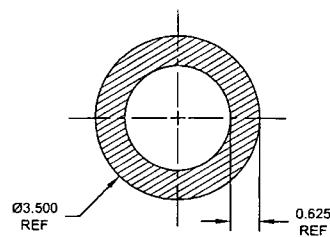
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D412-664-603 10
BENDING AND DRILLING DETAIL E



C1-3 VIEW D-D: CUFF DETAIL
 SCALE 4X



SECTION C-C D5-3
 SCALE 4X

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MFG. APPR.	DS	D412-664-243	SHEET 3 OF 4
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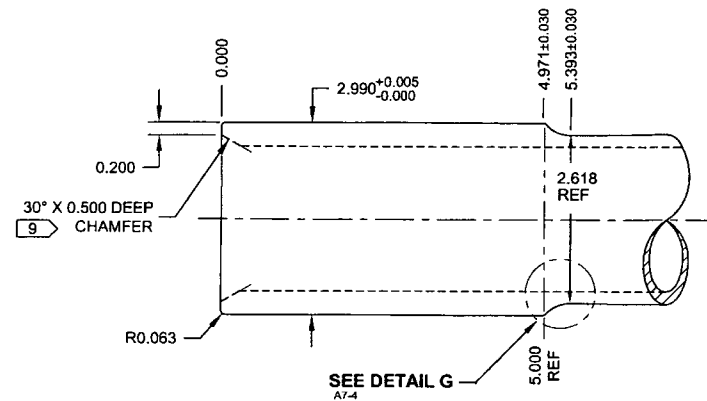
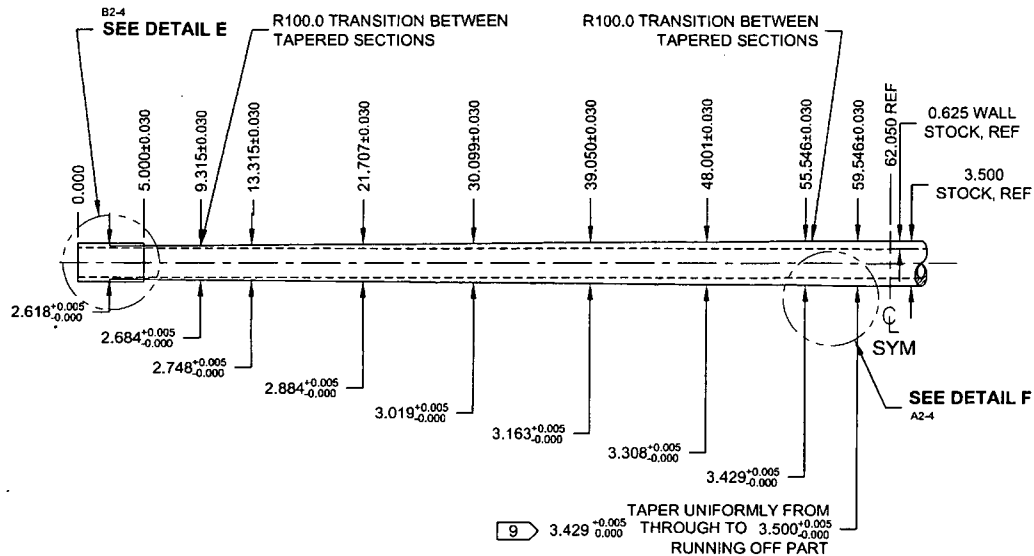
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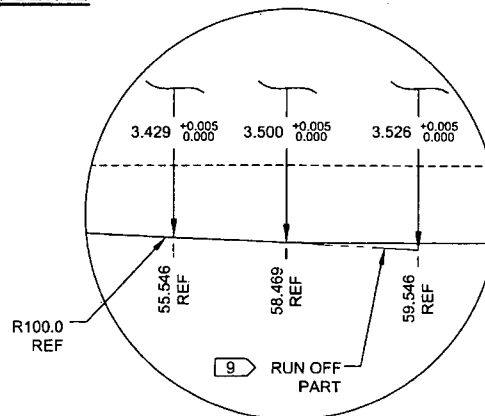
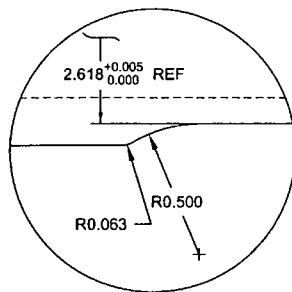
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NOTE: Date & initial all entries



D412-664-243TRN
TURNING DETAIL



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CHECKED	JP	DRAWING NO.	REV. E
MFG. APPR.	NS	D412-664-243	SHEET 4 OF 4
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LIQUID PENETRANT TEST REPORT

P- 15316

CLIENT DAVE AEROSPACE DATE FEB 1-2010 PAGE 1 OF 1
ATTENTION LINDA ACUREN JOB NO. 188-10-0650 TIME AM ☒ PM ☐
ADDRESS 1270 ADELDEEN ST. POWO No. 11290
HAWKESBURY ON. WORK LOCATION HAWKESBURY
KOH 1K7 ACCEPTANCE STD. ASTM 1417 REV./DATE 2007
PROJECT F.P.I. ON CROSS TUBES
ITEM(S) EXAMINED (12) SLEEVE'S

JOB DESCRIPTION STAINLESS STEEL PROCEDURE NO. LT-2002 REV./DATE LT-2002 TECHNIQUE NO. LT-2002 REV./DATE LT-2002
PART NO. STAINLESS STEEL MATERIAL ALUMINE ALUMINUM THICKNESS ---
SCOPE WET FLUORESCENT LIQUID PENETRANT INSPECTION
CARRIED OUT 100% EXTERNAL

TEST DETAILS

METHOD ☒ FLUORESCENT ☐ VISIBLE
FAMILY BRAND MAGNAFLUX ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
PENETRANT 2L 6F MINIMUM DWELL TIME 45 MIN. BLACK LIGHT S/N 16859 OUTPUT > 1000 μ W/CM² ☐ AMBIENT < 2 fc
PENETRANT REMOVER H2O MINIMUM DRY TIME > 10 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
DEVELOPER SKD 152 MINIMUM DWELL TIME 10 MIN. OTHER LABNO
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY LIGHT METER S/N 1078866 CAL DUE DATE MAR 7, 2010

TEST SURFACE

SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☐ MACHINED ☐ SHOT BLASTED ☐ CLEAN BARE METAL
SURFACE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/ 50°F ☐ 10°C/ 50°F TO 52°C/ 125°F ☐ > 52°C/ 125°F
RESULTS- ☐ METRIC ☐ IMPERIAL

12 SLEEVE'S - W.O. 55638 ✓
1 CROSS TUBE - W.O. 55132 ✓
1 CROSS TUBE - W.O. 55133 ✓
1 CROSS TUBE - W.O. 55406 ✓
1 CROSS TUBE - W.O. 55404 ✓
20 COLLECTIVE BELL CRANK - W.O. 53635 ✓
1 Mount - W.O. 55097 ✓
1 CROSS TUBE - W.O. 55433 ✓
1 CROSS TUBE - W.O. 55434 ✓

ALL ITEMS EXAMINED ON THIS
REPORT WERE FOUND ACCEPTABLE
TO THIS STANDARD.

10 02 02

Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE MATTHEW MURDOCH DTR # E-27697
TECHNICIAN (SIGNATURE): [Signature] SIGNATURE MATTHEW MURDOCH
NAME (PRINT): MIKE JANSSEN
CGSB LEVEL II SNT LEVEL II CGSB LEVEL 2nd SNT LEVEL ---
CGSB REG. NO. 6606 CGSB REG. NO. ---
REPORT REVIEWED BY: ---
NAME --- INITIALS ---

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